

(19) World Intellectual Property
Organization
International Bureau



557 820

(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/107461 A1

(51) International Patent Classification⁷: **H01L 33/00**,
23/34

(21) International Application Number:
PCT/KR2004/001153

(22) International Filing Date: 14 May 2004 (14.05.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2003-0033989 28 May 2003 (28.05.2003) KR
10-2003-0067949
30 September 2003 (30.09.2003) KR

(71) Applicant (for all designated States except US): **SEOUL SEMICONDUCTOR CO., LTD.** [KR/KR]; 148-29 Gasan-dong, Geumcheon-gu, Seoul 153-801 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HAN, Kwan Young** [KR/KR]; 105-2412 Woosung APT., 1707 Bongcheon-dong, Gwanak-gu, Seoul 151-050 (KR). **PARK, Kwang Il** [KR/KR]; 302 Sunwoo village, 909-19 Bongcheonbon-dong, Gwanak-gu, Seoul 151-840 (KR). **CHO, Jae Ho** [KR/KR]; 139-204 Singongdeok-dong,

Mapo-gu, Seoul 121-853 (KR). **SEO, Jung Hoo** [KR/KR]; 862-5 Siheungbon-dong, Geumcheon-gu, Seoul 153-857 (KR). **RYU, Seong Ryeol** [KR/KR]; A-402 Jeongwha Villa, 34-2 Sosa-dong, Wonmi-gu, Bucheon-si, Gyeonggi-do 420-818 (KR).

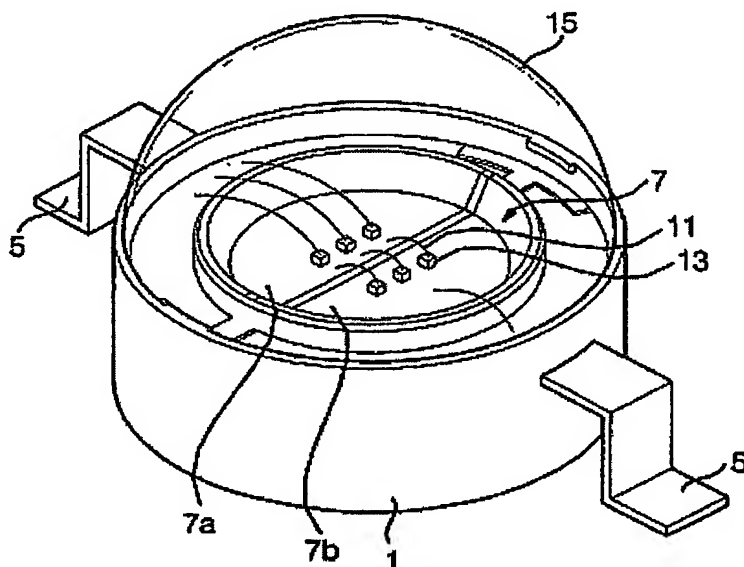
(74) Agents: **LEE, Soo-Wan et al.**; 1901-ho, Keungil Tower 19F, 677-25 Yeoksam-dong, Gangnam-gu, Seoul 135-914 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: **LIGHT EMITTING DIODE PACKAGE AND LIGHT EMITTING DIODE SYSTEM HAVING AT LEAST TWO HEAT SINKS**



(57) Abstract: There is provided a light emitting diode package having at least two heat sinks. The light emitting diode package includes a main body, at least two lead terminals fixed to the main body, and at least two heat sinks of electrically and thermally conductive materials, the heat sinks being fixed to the main body. The at least two heat sinks are separated from each other. Thus, high luminous power can be obtained mounting a plurality of light emitting diode dies in one LED package. Further, it is possible to embody polychromatic lights mounting LED dies emitting different wavelengths of light each other in the LED package.

WO 2004/107461 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.